INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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September 1, 2004

Mr. Bharat Mathur
Acting Regional Administrator
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, IL 60604

RE: Proposed Designations Concerning Fine Particles

Dear Mr. Mathur:

On June 29, 2004, the U.S. Environmental Protection Agency (EPA) informed Indiana of its proposed designations for fine particle nonattainment area boundaries. We have carefully reviewed EPA's proposed designations for Indiana and other states, along with additional technical information, and have had numerous discussions within our state and with other states and EPA concerning this important matter. We have serious concerns about the counties EPA has proposed for nonattainment that Indiana did not include in its recommendations.

We all share the goal of ambient air that meets national health standards for our citizens. We have made substantial progress towards our goal of healthy air since passage of the Clean Air Act over 30 years ago. We intend to continue this progress until air quality standards are met throughout the state. However, some of EPA's proposed designations will not help Indiana achieve that goal.

Specifically, we differ with EPA recommendations of nonattainment for:

? Porter County in Northwest Indiana,
? St. Joseph County in North Central Indiana,
? Hamilton, Hendricks, Morgan and Johnson counties in Central Indiana,
? Gibson, Pike, Warrick and Spencer counties in Southwest Indiana,
? Floyd and Jefferson counties in South Central Indiana, and
? Lawrenceburg Township (Dearborn County) in Southeast Indiana.

This letter provides Indiana's response to EPA's proposed designations. Indiana's view is that nonattainment areas should be limited only to those areas where measured air quality exceeds the standard or where a nonattainment designation is a necessary tool to address contributions to local nonattainment. Governor Kernan has expressed this view to Administrator Leavitt in his

letter dated June 23, 2004, (see Enclosure 1) and in a subsequent conversation with the Administrator.

IDEM appreciates the effort that EPA has made to evaluate all areas carefully and to ensure that decisions are made consistently across the country. We also appreciate how closely your staff has worked with IDEM staff on this matter. That being said, we believe that the approach EPA has taken in proposing designations is not consistent with the guidance provided by EPA to states. Furthermore, some of the proposed designations are not supported by current emissions data or meteorological patterns, and are inconsistent with proposed designations for other areas of the country.

Indiana's major concerns about EPA's approach are as follows:

1. The Emission Weighting System Is Flawed

Although EPA provided states and Regional Administrators guidance for devising nonattainment boundary recommendations that is virtually identical to that associated with the 8-hour ozone standard, [1] it appears that the EPA placed enormous reliance on a new emissions weighting system to substantiate its proposed designations. IDEM believes that this weighting system:

- was devised after states submitted their recommendations,
- was applied with insufficient consultation and consideration with states and within EPA,
- places undue weight on outdated emissions data as opposed to other key considerations such as meteorology, photochemical modeling, or speciated data analysis,
- fails to consider the true impact of emissions on actual monitor values,
- was not applied to numerous counties that may have a greater impact on counties with a monitored violation, and
- unfairly penalizes counties in smaller urban areas since it relies on complex ratios that do not take volume of actual emissions into consideration.

One result of EPA's approach is that counties such as Jefferson, Pike and Spencer that are located adjacent to, but not within, urban areas are automatically included as nonattainment counties if they contain a power plant. This result is unjustified for several reasons:

a. There is no scientific basis to assume that these power plants are contributing to urban nonattainment but more remote plants are not. In fact, EPA has determined just the opposite to be true: in its proposed Clean Air Interstate Rule ("CAIR"), it found that <u>all</u> power plants in the east and Midwest are contributing to high background PM2.5 levels.

[1] IDEM believes that the factors outlined in U.S. EPA's nonattainment boundary guidance are generally appropriate, with one very important exception–the reliance on the Consolidated Metropolitan Statistical Area (CMSA) boundary as a primary criterion. These boundaries at best imperfectly represent metropolitan areas, are inconsistent from area to area, and are in no way related to what we now understand to be the nature of fine particle formation and transport.

b. EPA has used outdated emissions and emissions control information about power plants in the counties it has proposed as nonattainment.
c. EPA is poised to require substantial reductions of NO_x and SO2 from the power plant sector through the CAIR from facilities in both attainment and nonattainment counties. Including these particular counties with power plants in nonattainment areas is not necessary to ensure the reductions will occur.

2. **EPA has not proposed or finalized essential guidance on implementing the PM 2.5 standards.**

The PM 2.5 implementation rule is critical to understanding the significance and consequences of a nonattainment designation and the planning procedures that a nonattainment designation triggers. For example, if the PM 2.5 designations take effect in early 2005 and the implementation rule has not been finalized, states will be unable to apply nonattainment New Source Review requirements to new permit applications.

3. **EPA is poised to automatically impose tougher permit requirements that have not been shown to be necessary for every new nonattainment area.**

Based on EPA's statements to date relative to the ozone standard, it is presumed that EPA will seek to impose nonattainment area new source review immediately for any area designated as nonattainment for PM 2.5. Not only is this approach unwarranted, as discussed in Governor Kernan's letter, but at the very least nonattainment New Source Review should be deferred until the implementation rule is final.

4. **The science associated with determining the causes of and contributions to PM 2.5 nonattainment is still developing.**

Modeling and other technical analyses have not progressed to the point where we know with certainty which geographic areas to control, which sources to control and the quantity of pollutants to control. Significant technical work will take place to fill these gaps over the next several years. Until these analyses are conducted and more is known relative to the causes and contributions to PM 2.5 nonattainment and the trends in PM 2.5 air quality, any areas designated as nonattainment should be limited to those that clearly and directly influence the existing monitor readings.

5. **There is a significant regional component to PM 2.5 nonattainment.**

Current scientific evidence, including EPA's modeling for the proposed Clean Air Interstate Rule and the Lake Michigan Air Directors' Consortium technical analysis, shows there is a regional component to PM 2.5, in addition to a local component. There is widespread recognition that regional controls of SO2 and NO_x will be necessary to address PM 2.5 nationwide. For those counties with violations, regional controls should take them

a long way toward compliance. For example, EPA's modeling shows its proposed Clean Air Interstate Rule will bring all Indiana counties into attainment by 2015, and all but one county (Lake) into attainment by 2010. Despite this regional component, Indiana's monitors do not show widespread violations of the annual standard. Many of Indiana's urban and suburban counties monitor compliance. Nonattainment designations for these urban and suburban counties would impose economic hardships and encourage urban sprawl beyond the current urban boundaries without contributing to attainment in adjacent counties. As noted above, nonattainment designations would lead to mandatory local controls, including stricter permitting of new sources, which may be unnecessary. Technical analysis to date is not conclusive on the issue of how local emissions decreases will impact PM 2.5 concentrations downwind.

6. Local contributions and source impacts should not be overlooked.

Of the 18 full counties and 1 partial county proposed as nonattainment by the EPA on June 29, 2004, only six of these counties have monitors that measure a violation of the annual standard for fine particles. Unlike ozone, background concentrations of fine particles are below the standard throughout the state. Although background concentrations are close to the standard at many monitors, IDEM believes that in certain cases the monitors that actually exceed the standard do so because of urban excess and/or local sources. For example, suburban counties are often below the standard in areas adjacent to the urban core where there is an exceedance. Therefore, it should not be assumed that a county contributes significantly to a violation in a neighboring county, especially if the "contributing" county itself is downwind and/or monitors ambient air that meets the standard. Furthermore, when federal programs such as the Clean Air Interstate Rule are implemented, precursors for fine particles as well as direct fine particles will be reduced in both attainment and nonattainment areas. Thus, designating counties as nonattainment that are currently monitoring attainment is unnecessary and will impose a needless burden on these areas.

7. EPA's rules should be completed soon, should provide flexibility, and should harmonize dates and planning.

We urge EPA to complete the PM 2.5 implementation rule soon, and in doing so, provide states with as much flexibility as possible to develop State Implementation Plans. In addition, we urge EPA to reconcile the attainment dates for PM 2.5 with the NO_x and SO2 reduction dates in the Clean Air Interstate Rule. PM 2.5 SIPs will be due in early 2008, and attainment will be required by early 2010. If the first phase of the proposed reductions does not occur until 2010, attainment may not be achieved until 2013 or later. EPA should harmonize as much as possible the planning and implementation for PM 2.5 with ozone and regional haze efforts.

Enclosure 2 contains additional, detailed information and analysis to support Indiana's recommendations, but I will address each area briefly.

Northwest Indiana

The only monitored violation of the standard within the PMSA occurs in Lake County, at just one of the seven monitors (East Chicago). The design value for Lake County should be 15.2µg/m3 (the East Chicago site), as opposed to 17.7µg/m3 (Burr Street). The Burr Street monitor is a source-specific site (it is immediately adjacent to a truck stop) that does not monitor ambient air concentrations for purposes of the annual standard. Both Porter County monitor values are below the standard. The lone monitored violation of the standard within this region indicates potential contribution from a local source or sources. With there being a marginal violation at just one site among seven in Lake and Porter counties, there is indication that this may be an isolated problem, as opposed to a regional problem. Wind rose analysis indicates that Porter County is not likely a significant contributor to Lake County PM 2.5 values. Since Porter County is upwind of LaPorte County, and LaPorte County's monitor values are well below the standard, Porter County does not appear to be contributing to PM 2.5 violations anywhere within the region. Therefore, IDEM continues to recommend that Porter County be designated attainment.

North Central Indiana

The monitor located in Elkhart County is the only monitor within the region that exceeds the standard. Values for all three monitors located within St. Joseph County are well below the standard (14.0, 14.0 and 14.3). The Elkhart monitor value of 15.2 µg/m3 is marginally above the standard. It is reasonable to assume that regional controls such as the utility NO_x rule and low sulfur fuels will reduce PM 2.5 concentrations sufficiently to enable Elkhart County to attain the standard in a timely manner. Additionally, it does not appear that there will be a need for local controls in either St. Joseph or Elkhart Counties because of the anticipated regional reductions from the Clean Air Interstate Rule. Therefore, IDEM continues to recommend that St. Joseph County be designated attainment.

Central Indiana

The only monitored violations of the standard within the MSA occur in Marion County. Four of the six monitors within the MSA exceed the standard. Marion County (Indianapolis) maintains the highest (significantly) concentration for employment, vehicle miles traveled (VMT), commerce, and recreation compared to the other counties within the MSA. Stationary sources within Marion County account for over half of the direct PM 2.5 emissions from stationary sources within Central Indiana and the next closest county within the region accounts for just 11 percent. Sources within Marion County also account for 70 percent of the SO2 emissions from stationary sources within the Central Indiana Region. Unlike ozone, PM 2.5 monitoring values indicate that PM 2.5 values decrease away from the core of the Indianapolis urban area into the suburban area. This is represented by the lower values registered at the Mann Road monitor which

is Southwest of the core urban area and by the Madison County monitor which is Northeast of the core urban area. Both of these monitors register values below the standard.

As a result of the weighted emission scoring system, EPA has proposed that Hamilton, Hendricks, and Johnson counties be included in the nonattainment area due to population density and the potential impact of mobile source emissions. However, the predominant VMT concentrations and commuting patterns do not occur in the urban core where violations occur, but rather in the fringes of the county along the I-465 corridor in the Northeast, Northwest, and Southwest corners of Marion County where monitor values are either below the standard or predicted to be below the standard (see Enclosure 2). There are power plants located in Hamilton and Morgan counties (one in each). The plant in Hamilton County recently converted from coal to gas and has reduced its emissions dramatically (2002 NO_x emissions are nearly 60 percent less than 1999 and SO2 emissions for 2002 are nearly 85 percent lower than 1999). The closest downwind PM 2.5 monitor of Morgan County is the Mann Road monitor in Marion County. This monitor maintains a value below the standard. Therefore, IDEM does not believe that emissions from Morgan County significantly impacts PM 2.5 concentrations in Marion County. IDEM recommends that Hamilton, Hendricks, Johnson, and Morgan counties be designated attainment.

Southwest Indiana

There are three PM 2.5 monitors within the MSA and they are all located in Vanderburgh County. All three monitors in Vanderburgh County exceed the standard. Rural background monitors are located east of Warrick County in Spencer County and North of Gibson County in Knox County. To a significant degree, these monitors receive air masses that have just crossed the state line. These have design values of 14.4 and 13.9, respectively, indicating high background levels coming into the area, despite being below the standard. These values also are an indication that PM 2.5 concentrations in the neighboring counties (i.e., Warrick and Gibson) could be below the standard if monitors were present. The 2001 to 2003 design values have dropped and NO_x emissions are expected to decrease throughout the Midwest over the next few years due to the NO_x SIP Call and new federal engine and fuel standards. The power plants and other industrial sources in Gibson, Warrick, Pike, and Spencer counties have reduced emissions significantly since 1999. For example, from 1999 to 2003, PSI Energy in Gibson County has reduced its NO_x emissions by more than 22 percent and its SO2 emissions by more than 14 percent, and the Indiana Michigan Power-Rockport facility has reduced its NO_x emissions by over 10 percent and its SO2 emissions by over 15 percent over the same period of time. Furthermore, there is no scientific evidence that emissions from these counties or facilities contribute to monitored violations in Vanderburgh or Dubois counties. Therefore, it is unnecessary to extend the restrictions that accompany a nonattainment designation to additional counties at this time. There are rural counties upwind of Vanderburgh and Dubois counties in other states that could be impacting PM 2.5 concentrations more so than Gibson, Spencer, or Pike Counties, but EPA has proposed those counties as attainment/unclassifiable and not subjected them to the emissions scoring system. IDEM recommends that Gibson, Pike, Spencer, and Warrick counties be designated attainment.

South Central Indiana

There are only two PM 2.5 monitors within Indiana's portion of the Louisville MSA (one monitor each in Clark and Floyd Counties). The Jeffersonville site in Clark County is the only monitor in violation of the standard. The difference between the monitor values at the Jeffersonville (Clark County) site and the New Albany (Floyd County) site suggests a geographically isolated spike in PM 2.5 concentrations in Clark County. This is further exemplified by the slightly lower PM 2.5 monitor values recorded within the urban core of Louisville, as it is unusual for the highest value within the urban area to be outside of the core county (Jefferson, KY). This indicates the possibility that the isolated spikes associated with the Clark County monitor may be affected by a local source or sources within Clark County, including onroad and nonroad contributions from a nearby interstate (I-65) that has been undergoing major reconstruction. There is a power plant in Floyd County. However, there is no scientific evidence that the power plant is a significant contributor to the Jeffersonville monitor value. Additionally, this source will be regulated by future control requirements (e.g., the Clean Air Interstate Rule) regardless of Floyd County's attainment status.

Jefferson County is not part of the Louisville MSA, however it is adjacent to Clark County. There is a power plant (Clifty Creek) in Jefferson County, which is why EPA has included it in the proposed nonattainment area. The county is downwind of the Louisville MSA, thus it is highly unlikely that it is a significant contributor to monitored violations of an annual standard. It appears that EPA subjectively chose to apply the weighted emissions scoring system to Jefferson County as part of the Louisville MSA. There are a number of rural and partially urban counties directly upwind of the Louisville Area that could affect monitored violations within the region more directly than Jefferson County. Additionally, EPA's guidance to Regional Administrators states that the MSA/CMSA should serve as a presumptive boundary and does not distinguish between rural counties and rural counties that abut an MSA. If EPA is going to designate a county nonattainment based on its contribution to a monitored violation, then counties should be viewed consistently, not singled out because they are adjacent to an MSA or because a power plant is located within it.

IDEM recommends that EPA designate Floyd and Jefferson Counties as attainment.

Southeast Indiana

There are no PM 2.5 monitors in Dearborn County. There is only one significant stationary source in Indiana's portion of the Cincinnati Consolidated MSA (CMSA), which is the AEP Tanners Creek power plant. Dearborn County accounts for approximately 2 percent of the total population within the CMSA. The Tanners Creek power plant has reduced its emissions in recent years by installing permanent combustion controls to address requirements associated with Title IV and the NO_x SIP Call. This facility has installed low- NO_x burners on three of its four units, and over-fire air on the fourth, and largest unit. From 1999 to 2002, annual NO_x emissions from this facility have been reduced by over 20,000 tons (a 60 percent decrease), and SO2 emissions have been reduced by nearly 14,000 tons (a 22 percent decrease). If a monitor were located in Dearborn County, it is reasonable to assume that the values would be consistent with background

values elsewhere in the state and Midwest. Therefore, IDEM does not believe that PM 2.5 concentrations exceed the standard in Dearborn County. Additionally, based on analysis of similar urban areas, IDEM does not believe that emissions from Dearborn County contribute significantly to PM 2.5 values elsewhere in the Cincinnati CMSA. Therefore, IDEM recommends that Dearborn County be designated attainment/unclassifiable.

More detail on each of these areas is presented in Enclosure 2.

Indiana appreciates this opportunity to provide additional input and recommendations to EPA concerning this important matter prior to final action being taken. Upon your review and consideration of the information contained within, we hope that EPA concludes that modifications to our recommendations are unnecessary.

We look forward to further consultation with EPA on this critical issue. If you or your staff has questions about this letter or the attached information, please contact Janet McCabe of the Office of Air Quality at 317/232-8222.

Sincerely,

Lori F. Kaplan

Lori F. Kaplan
Commissioner

Enclosures

cc: Steve Rothblatt, Region 5
Jay Bortzer, Region 5